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AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation claims indicated as cancelled:

Claims 1-125 Cancelled

126. (New) A three-dimensional printing system, comprising:
a printing head to print three-dimensional objects; and
a printing tray with selected characteristics to prevent deformation during printing of said three dimensional objects.
127. (New) The printing system of claim 126, wherein said tray includes a high adhesion surface coating.
128. (New) The printing system of claim 127, wherein said tray comprises aluminium and said surface coating comprises an anodized layer.
129. (New) The printing system of claim 128, wherein said anodized coating includes at least pores containing a material to act to adhere to said objects.
130. (New) The printing system of claim 128, wherein said anodized coating includes pores containing water to act to adhere to said objects.
131. (New) The printing system of claim 126, wherein said printing tray comprises organic material or a material substantially similar to a material included in said objects, said material having a thermal coefficient similar to that of said three-dimensional objects being printed.
132. (New) The printing system of claim 126, wherein said printing tray includes at least one cooling tunnel.
133. (New) A printing sub-system for three-dimensional printing, comprising:
a printing head to deposit material for a three-dimensional object;
a printing tray; and
a temperature control unit to control the temperature in the apparatus.

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134. (New) The printing sub-system of claim 133, wherein said temperature control unit includes a heating source.

135. (New) The printing sub-system of claim 133, wherein said temperature control unit includes a cooling source.

136. (New) The printing sub-system of claim 133, wherein said temperature control unit is integrated into said printing tray

137. (New) The printing sub-system of claim 133, wherein said temperature control unit includes a temperature-sensing unit.

138. (New) The printing sub-system of claim 133, comprising an upper heating element to heat upper layers of an object being printed.

139. (New) The printing sub-system of claim 133, comprising a radiation source.

140. (New) The printing sub-system of claim 133, comprising a blowing unit to cool said three-dimensional object.

141. (New) The printing sub-system of claim 133, comprising a air sucking unit to cool the air in the printing apparatus.

142. (New) A three-dimensional printing apparatus comprising a printing head to print a three-dimensional object; and

at least two printing trays.

143. (New) A printing apparatus for three-dimensional printing, comprising a controller to control construction of building material at the base of an object to be printed, and print the object on said construction.

144. (New) The printing apparatus of claim 143, wherein said construction is to provide a soft barrier layer between said object and said printing tray.

145. (New) The printing apparatus of claim 143, wherein said construction is to provide a carpet for said object.

146. (New) The printing apparatus of claim 143, wherein said construction is to raise said object being built to within the leveling range of a leveling device.

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147. (New) A printing apparatus for three-dimensional printing, comprising a controller to position a printing tray at a relatively high level prior to printing, said level enabling compensation for shrinkage in a previously printed and cured layer.

148. (New) A printing apparatus for printing three-dimensional objects, comprising a controller to control adjustment of printing coordinates with a shift algorithm, to improve the quality of said three-dimensional objects.

149. (New) The printing apparatus of claim 148, wherein said controller is to control adjustment parameters selected from the group consisting of print head shifting, print head movement, and input data conversion.

150. (New) The printing apparatus of claim 148, wherein said controller is to detect defective nozzles and to adjust printing coordinates to compensate for said defective nozzles.

151. (New) The printing apparatus of claim 148, wherein said controller is to enable moving a printing head in a forward passage when printing an object, and adjusting the height of a printing tray prior to the reverse passage of said printing head.

152. (New) The printing apparatus of claim 148, wherein said controller controls shifting the step of a nozzle array, where said nozzle array includes a large nozzle step.

153. (New) The printing apparatus of claim 148, wherein said controller is to enable printing additional layers in a first direction, and lowering the printing tray for each additional layer printed in said first direction.

154. (New) The printing apparatus of claim 153, wherein said controller is to enable printing additional layers in a second direction, said number of additional layers being related to said nozzle step divided by the size of the nozzle droplet stain.

155. (New) A method of three-dimensional object printing comprising printing an object on a printing tray with a selected surface characteristics.

156. (New) The method of claim 156 wherein the tray comprises aluminium and an anodized coating for high adhesion of said three-dimensional object to said printing tray.

157. (New) The method of claim 156 wherein the tray includes pores that include material that attracts modeling material.

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158. (New) The method of claim 157 comprising introducing water into said pores.
159. (New) The method of claim 156 comprising pre-treating said printing tray with water.
160. (New) The method of claim 156 wherein said printing tray has a thermal coefficient substantially similar to the thermal coefficient of said object.
161. (New) The method of claim 156 wherein said printing tray is made of organic material or material substantially similar to the material of a printed object.
162. (New) A three-dimensional object printing method comprising:
printing a construction of building material at the base of an object to be printed; and
printing the object on said construction.
163. (New) The printing method of claim 162, wherein said construction is to provide a barrier layer between said object and said printing tray.
164. (New) The printing method of claim 162, wherein said construction is to provide a carpet for said object.
165. (New) The printing method of claim 162, wherein said construction is to raise said object being built to within the leveling range of a leveling device.
166. (New) A three-dimensional object printing method, comprising controlling the temperature of an object being printed.
167. (New) The method of claim 166 comprising exposing a printing tray holding said object to a cold source, wherein said cold source is selected from the group consisting of cold water, a blowing unit, an air sucking unit, and a temperature control unit.
168. (New) The method of claim 166, comprising heating a printing tray to a selected temperature.
169. (New) The method of claim 166, comprising cooling said object.
170. (New) The method of claim 166, comprising heating said printing tray to substantially the glass transition point of said object.
171. (New) The method of claim 166, comprising:

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depositing support material; and

heating said printing tray to substantially the glass transition point of said support material.

172. (New) The method of claim 166, comprising controlling the temperature of an upper layer of material of said object.

173. (New) The method of claim 172, comprising controlling said temperature of said upper layer to be above the glass phase transition of said material.

174. (New) The method of claim 172, comprising controlling said temperature of said upper layer by a mechanism selected from the group consisting of electromagnetic radiation, exothermic chemical curing, a heating element, and a cooling element.

175. (New) The method of claim 172, comprising heating the material of said upper layer before depositing said material.

176. (New) A three-dimensional object printing method, comprising controlling the temperature in a printing sub-system during a printing process.

177. (New) The method of claim 177, wherein said controlling uses temperature control mechanisms selected from the group consisting of a heating element, a cooling element, a curing unit, a radiation unit, and an insulated printing sub-system.

178. (New) The method of claim 177, comprising controlling cooling of said printing sub-system.

179. (New) The method of claim 177, comprising moving a printing tray to an insulation area.

180. (New) The method of claim 54, wherein said insulation area is a removable structure.

181. (New) A three-dimensional object printing method comprising printing consecutive layers of material and positioning a printing tray at a relatively high level prior to printing, said level enabling compensation for the shrinkage in the previously printed and cured layer.

182. (New) A three-dimensional object printing method, comprising printing a support construction on a printing tray prior to printing an object, said support construction including one or more layers of modeling material and of support material.

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183. (New) The method of claim 57, wherein said support material protrudes outside the boundaries of said object.

184. (New) The method of claim 57, wherein the support construction comprises one or more pillars of modeling material interspersed with support material.

185. (New) A method for printing three-dimensional objects, comprising:
controlling adjustment of printing coordinates with a shift algorithm to improve the quality of said three-dimensional objects.

186. (New) The method of claim 185, where said adjustment includes controlling adjustment parameters selected from the group consisting of print head shifting, print head movement, and input data conversion.

187. (New) The method of claim 185, comprising adjusting said printing coordinates to compensate for defective nozzles.

188. (New) A method for 3-D printing, comprising:
printing a first layer of an object to be printed by a printing head having a certain reference frame; and
printing a second layer of an object to be printed by said printing head, said printing head having a second reference frame, said second reference frame being different from said first reference frame.

189. (New) The method of claim 188, wherein each of said first layer and said second layer includes a portion of required pixels.

190. (New) The method of claim 188, wherein said first layer and said second layer have different height values.

191. (New) The method of claim 188, comprising printing a subsequent layer over said second layer.

192. (New) The method of claim 188, comprising performing said printing according to a shift algorithm.

193. (New) A method for 3-D printing, comprising:

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moving a printing head in a forward passage when printing an object; and

adjusting the height of a printing tray prior to the reverse passage of said printing head.

194. (New) A method of three-dimensional object printing comprising shifting the step of a nozzle array, where said nozzle array includes a large nozzle step.

195. (New) The method of claim 194, wherein said shifting the step includes printing additional layers in a first direction, and lowering the printing tray for each additional layer printed in said first direction.

196. (New) The method of claim 194, wherein said shifting the step includes printing additional layers in a second direction, said number of additional layers being related to said nozzle step divided by the size of the nozzle droplet stain